CLAIMS

1. A method of determining velocity of detonation of a metal-clad explosive fuze that expands in diameter as it detonates along its length, comprising:

placing a sensor spaced from and adjacent a first location on the fuze;

placing a second sensor spaced from and adjacent a second location on the fuze;

igniting the fuze at a third location on the fuze, wherein the fuze detonates along its length past the first and second locations, the expanded fuze being detected by each sensor as the fuze detonates at that sensor's location; and

determining the velocity of detonation from the time difference between the actuation of each sensor.

2. The method of claim 1 wherein the third location is not between the first and second locations.

3. The method of claim 2 wherein the ignited fuze actuates the first sensor before it actuates the second sensor.

4. The method of claim 3 wherein each sensor comprises an electrical conductor that contacts the fuze only after the fuze expands from detonation at the sensor.

5. The method of claim 4 further comprising an electrical circuit connected to each conductor, wherein actuation of each sensor causes a voltage change in the electrical circuit connected to that sensor.

6. The method of claim 1 wherein the sensors are mounted on an apparatus and the fuze is in a groove on a device, wherein the placing steps comprise:

holding the apparatus against the device in a fixed position with the first and second sensors vertically aligned with the respective first and second locations;

moving each sensor toward the fuze until it contacts the fuze; and

moving each sensor to a sensing position that does not contact the fuze before detonation, and that will be contacted by the detonated fuze.

7. The method of claim 6 wherein each sensor is a screw that extends through a block that covers the first and second locations, and the sensors are moved by screwing them towards and away from the fuze.

8. An apparatus for measuring the velocity of detonation in a mild detonation fuze extending in a groove on the surface of a device, the device including an igniter at one end of said fuze, said apparatus comprising:

a first sensor spaced from and adjacent a first location on said fuze;

a second sensor spaced from and adjacent a second location on said fuze, said second location being further along said fuze from the ignition end than said first location, each of said spacers being spaced sufficiently close to said fuze that detonation at the sensor location is detected by said sensor; and

a timer that is started when said first sensor detects an expanded fuze and is stopped when said second sensor detects an expanded fuze; wherein the velocity of detonation is calculated from time measured by said timer and the known distance between said first and second sensors.